

Notice of Allowability

Application No.

09/776,472

Examiner

Jimmy Lin

Applicant(s)

HIROKI ET AL.

Art Unit

1762

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 3/12/07.
2. ☒ The allowed claim(s) is/are 6-7, 19.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mark Murphy on 4/25/2007.

The application has been amended as follows:

Claim 61: A method of manufacturing a light-emitting device according to claim ~~53~~55, wherein the bank covers an edge portion of the pixel electrode.

Claim 62: A method of manufacturing a light-emitting device according to claim 6, wherein the light-emitting device is a passive type.

Claim 63: A method of manufacturing a light-emitting device according to claim 53, wherein the light-emitting device is a passive type.

Claim 64: A method of manufacturing an active matrix ~~type~~ light-emitting device, comprising:

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forming a pixel column comprising a plurality of pixel electrodes and a plurality of thin film transistors,

discharging a liquid comprising an organic light-emitting material to the pixel column over a substrate through a contact element from a nozzle by contacting the contact element to a bank so that the contact element and the pixel column are connected through the liquid comprising said organic light-emitting material,

wherein the contact element is provided at a tip of the nozzle.

Claim 65: A method of manufacturing an active matrix type-light-emitting device according to claim 64, wherein said nozzle has a large internal diameter portion and a small internal diameter portion.

Claim 66: A method of manufacturing an active matrix type-light-emitting device according to claim 64,

wherein said liquid comprising said organic light-emitting material is discharged with scanning the nozzle along a direction parallel to the pixel column.

Claim 67: A method of manufacturing an active matrix type-light-emitting device according to claim 64, wherein ultrasonic oscillation is applied to the liquid comprising the organic light-emitting material when the liquid is discharged from the nozzle.

Claim 68: A method of manufacturing an active matrix ~~type~~-light-emitting device according to claim 64, wherein the liquid comprising the organic light-emitting material is heated when the liquid is discharged from the nozzle.

Claim 69: A method of manufacturing an active matrix ~~type~~-light-emitting device according to claim 64, wherein the bank comprises a resin material.

Claim 70: A method of manufacturing an active matrix ~~type~~-light-emitting device according to claim 64, wherein the bank covers an edge portion of the ~~pixel electrode~~ plurality of pixel electrodes.

Claim 71: A method of manufacturing an active matrix ~~type~~-light-emitting device, comprising:

forming a pixel column comprising a plurality of pixel electrodes and a plurality of thin film transistors,

discharging a liquid comprising a light-emitting material to the pixel column over a substrate through a contact element from a nozzle by contacting the contact element to a bank so that the contact element and the pixel column are connected through the liquid comprising said light-emitting material,

wherein the contact element is provided at a tip of the nozzle.

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Claim 72 A method of manufacturing an active matrix ~~type~~-light-emitting device according to claim 71, wherein said nozzle has a large internal diameter portion and a small internal diameter portion.

Claim 73: A method of manufacturing an active matrix ~~type~~-light-emitting device according to claim 71,

wherein said liquid comprising said light-emitting material is discharged with scanning the nozzle along a direction parallel to the pixel column.

Claim 74: A method of manufacturing an active matrix ~~type~~-light-emitting device according to claim 71, wherein ultrasonic oscillation is applied to the liquid comprising the light-emitting material when the liquid is discharged from the nozzle.

Claim 75: A method of manufacturing an active matrix ~~type~~-light-emitting device according to claim 71, wherein the liquid comprising the light-emitting material is heated when the liquid is discharged from the nozzle.

Claim 76: A method of manufacturing an active matrix ~~type~~-light-emitting device according to claim 71, wherein the bank comprises a resin material.

Claim 77: A method of manufacturing an active matrix type light-emitting device according to claim 71, wherein the bank covers an edge portion of the ~~pixel electrode~~plurality of pixel electrodes.

Allowable Subject Matter

2. The following is an examiner's statement of reasons for allowance:

The prior art of record does not reasonably teach or suggest discharging a liquid through a contact element from a nozzle, wherein the contact element is provided at a tip of the nozzle and contacts a bank on the substrate, in combination with the other limitations required by the claims. Iguchi '536 is the closest prior art of record. The contact element 40 of Iguchi is neither attached to a tip of the nozzle nor does it have a liquid being discharged through it. The nozzle of Iguchi does not directly contact a bank on the substrate, or any part of the substrate for that matter.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

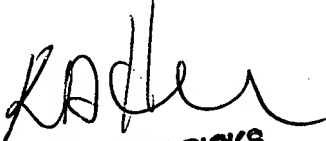
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jimmy Lin whose telephone number is 571-272-8902. The examiner can normally be reached on Monday thru Friday 8AM - 5:30PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim Meeks can be reached on 571-272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JL


KEITH HENDRICKS
PRIMARY EXAMINER